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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,698

03/19/2004

B. Ryland Wiggs

N9302

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23456

7590

04/14/2006

WADDEY & PATTERSON
1600 DIVISION STREET, SUITE 500
NASHVILLE, TN 37203

EXAMINER

MCCRAW, BARRY CLAYTON

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,698

Applicant(s)

WIGGS, B. RYLAND

Examiner

B. Clayton McCraw

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-76 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 26, 27, 34, 59 and 60, drawn to a direct expansion geothermal vapor refrigerant transport system specifying minimum feet per tonnages and percentage within rock.
 - II. Claims 2, 3, 11, 35, 36, and 44, drawn to tubing/ refrigerant lines specifying various liquid and vapor line sizes for varying compressor sizes.
 - III. Claims 4-7 and 37-40, drawn to an un-insulated vapor transport line connected to an un-insulated liquid transport line.
 - IV. Claims 8-10, 12, 41-43, and 45, drawn to covering the heat transfer vapor lines with heat conductive material.
 - V. Claims 13-17 and 46-50, drawn to providing a refrigerant with system operational working pressures at least 33% greater than system operational working pressures of R-22.
 - VI. Claims 18, 19, 51, and 52, drawn to providing insulation to surround specific percentages of refrigerant transport lines.
 - VII. Claims 20 and 53, drawn to providing a watertight containment pipe of various materials to contain a refrigerant transport line.
 - VIII. Claims 21 and 54, drawn to providing multiple wells distanced by at least 15 feet.

- IX. Claims 22 and 55, drawn to the top of a refrigerant pipe being sealed in a watertight manner.
- X. Claims 23 and 56, drawn to designing the length of a pipe when composed of polyethylene, increased by at least 5%.
- XI. Claims 24 and 57, drawn to providing a well/ borehole system application where at least 20% of one of a liquid and a gel within a containment pipe is propylene glycol antifreeze.
- XII. Claims 25 and 58, drawn to operate a heating and cooling system in cooling mode at least once every so often.
- XIII. Claims 28-30 and 61-63, drawn to pin restrictor hole diameters.
- XIV. Claims 31 and 64, drawn to providing a dual directional receiver for refrigerant charge.
- XV. Claims 32, 33, 65, and 66, drawn to respective containment pipes joining in a U bend fashion.
- XVI. Claims 67, 68, 70, and 71, drawn to providing a heat exchange system with copper refrigerant transport lines in a trench, placed within a well to allow subsurface geothermal refrigerant flow.
- XVII. Claims 69 and 72, drawn to connecting a vapor line and liquid line at the deepest possible point in the sub surface heat transfer.
- XVIII. Claims 73-76, drawn to creating a trench for a geothermal heat exchange system.

The inventions are distinct, each from the other because of the following reasons:

2. The inventions described above are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, each of the subcombinations mentioned above has separate utility such, as in a direct expansion geothermal heat exchange system that does not include the features of each of the other sub combinations. See MPEP § 806.05(d).
3. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.
4. The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.
5. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

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unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Clayton McCraw whose telephone number is (571) 272-3665. The examiner can normally be reached on M-F 8:30AM-5:00PM.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BCM
4/5/2006



MARC NORMAN
PRIMARY EXAMINER